

## IN THE CLAIMS

### 1. (Currently amended) Polyphase filter comprising:

at least two filters, each comprising a series admittance element and a shunt conductance element, each for filtering an input signal to produce a filtered signal at an output;

at least two integrators, each corresponding to one of said filters and coupled to said one of said filters, for integrating said filtered signals, each integrator comprising an operational amplifier having one input signal connected to a fixed reference potential;

wherein an output of each integrator is coupled via an impedance element to an input of an adjacent integrator of said at least two integrators.

2. (Currently amended) Polyphase filter according to claim 1, wherein an output of ~~an~~ one integrator is coupled via a conductance element to an input of a previous integrator one integrator of said at least two integrators is coupled via a conductance element to an input of an above integrator of the at least two integrators.

3. (Currently amended) Polyphase filter according to claim 2, wherein an output of ~~an~~ said one integrator is coupled via a capacitor to an input of a next integrator said one integrator of said at least two integrators is coupled via a capacitor to an input of a below integrator of said at least two integrators.

4. (Currently amended) Polyphase filter according to claim 3, wherein ~~an integrator~~ said operational amplifier comprises an amplifier with an admittance element in a feedback

path.

5. (Currently amended) Polyphase filter according to claim 4, wherein ~~a~~each of said filters comprises a passive element selected from a group consisting of a resistor, an inductor and a capacitor, and wherein ~~a~~each of said amplifiers comprises an operational amplifier.

6. (Currently amended) Polyphase filter according to claim 5, wherein a passive element comprises a resistor and a capacitor and wherein ~~a~~said admittance element comprises a capacitor and a conductance element coupled in parallel to each other.

7. (Currently amended) Polyphase filter according to claim 6, wherein said polyphase filter comprises at least one signal inversion between said at least two integrators.

8.-9. (Canceled)